

Appendix C—Proposed Matrix for Priority Illnesses with Sufficient Information (Table 3.1)

SILICOSIS, CHRONIC

Criteria	Sufficient evidence of covered illness	Sufficient evidence of possible covered illness, requires physician review
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	10 years or more	5-10 years
Medical Evidence for illness and diagnostic testing criteria	<p>1. A written diagnosis of silicosis made by a medical doctor</p> <p>And</p> <p>2. Any <u>one</u> of the following three criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with silicosis</p> <ul style="list-style-type: none"> • Such as nodules, or fibrosis usually with upper lung zone predominance <p>c. Lung biopsy findings consistent with silicosis</p> <ul style="list-style-type: none"> • Such as silicotic nodules 	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) mention of silicosis, possible silicosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><u>Or</u></p> <p>Death certificate mention of silicosis, possible silicosis, restrictive lung disease, fibrosis or pneumoconiosis</p> <p>Or</p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 0/1</p> <p>Or</p> <p>Lung biopsy findings suggestive of silicosis</p>
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

SILICOSIS, ACUTE

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Weeks to months	Weeks to months
Medical Evidence for illness and diagnostic testing criteria	<p>1. Any <u>one</u> of the following two criteria; and</p> <p>a. A written diagnosis of acute silicosis made by a medical doctor; <u>or</u></p> <p>b. Death certificate or other acceptable documentation of death due to acute silicosis</p> <p>And</p> <p>2. The medical record contains no other diagnoses, such that would otherwise account for the acute sudden severe lung illness, such as other infection or ARDS</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Written evidence of sudden lung illness causing death or severe, overwhelming lung illness, even if attributed to tuberculosis or other illness or infection</p> <p>Or</p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of acute silicosis</p> <ul style="list-style-type: none"> Such as: air space obliteration, alveolar filling pattern, pulmonary edema, pulmonary hemorrhage, infiltrate, alveolar proteinosis <p>Or</p> <p>Results of lung function testing (PFT or spirometry) showing sudden worsening</p> <p>Or</p> <p>Lung biopsy findings suggestive of acute silicosis</p> <ul style="list-style-type: none"> Such as alveoli filled with proteinaceous material
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

SILICOSIS, ACCELERATED

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	2-5 years	< 2 years or > 5 years
Medical Evidence for illness and diagnostic testing criteria	<p>1. A written diagnosis of accelerated silicosis made by a medical doctor</p> <p>And</p> <p>2. Any <u>one</u> of the following three criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with silicosis</p> <ul style="list-style-type: none"> Such as nodules or fibrosis usually with upper lung zone predominance <p>c. Lung biopsy findings consistent with silicosis</p> <ul style="list-style-type: none"> Such as silicotic nodules 	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) mention of accelerated silicosis, silicosis, possible silicosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><u>Or</u></p> <p>Death certificate mention of silicosis, possible silicosis, restrictive lung disease, fibrosis or pneumoconiosis</p> <p>Or</p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 0/1</p> <p>Or</p> <p>Lung biopsy findings suggestive of silicosis</p>
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

SILICOSIS, COMPLICATED

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review.</u>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Years to decades	Years to decades
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of progressive massive fibrosis (PMF) or complicated silicosis made by a medical doctor And 2. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with PMF <ul style="list-style-type: none"> • Progression and coalescence of the upper lung zone nodules to form masses (conglomerate lesions) • When they cause contraction of the lobes, an "angel wing pattern" can be seen 	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

BERYLLIUM SENSITIZATION

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review
DOE exposure criteria*	Verification that an employee worked in a facility where beryllium was present	Verification that an employee worked in a facility where beryllium was present
Latency*	First DOE exposure must have preceded first abnormal test for beryllium sensitization	First DOE exposure must have preceded first abnormal test for beryllium sensitization
Medical Evidence for illness and diagnostic testing criteria	<p>1. Medical documentation <u>one</u> of following two criteria*</p> <p>a. Beryllium sensitivity or sensitization established by an abnormal BeLPT performed on either blood or lung lavage cells; <u>or</u></p> <p>b. Positive reaction to beryllium patch testing</p> <p>And</p> <p>2. No signs, or symptoms, or any medical evaluation evidence of abnormalities suggestive of possible chronic beryllium disease</p>	<p>If BeLPT was borderline or uninterpretable, it is recommended that the test be repeated.</p> <p>After two borderline LPTs, it is recommended that the employee be counseled to pursue appropriate medical follow-up for additional beryllium testing options and/or disease evaluation</p> <p>After third uninterpretable BeLPT, it is recommended the employee undergo patch testing for beryllium sensitization, if not still working with beryllium</p>
Additional considerations for causation	None needed	None needed

* Other tests of beryllium-specific immune response that are currently promising and anticipated to soon become additional diagnostic criteria include a flow cytometry based assay, beryllium-stimulated neopterin test, and a measure of beryllium stimulated cytokine production.

CHRONIC BERYLLIUM DISEASE

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review
DOE exposure criteria*	Verification that an employee worked in a facility where beryllium was present	Verification that an employee worked in a facility where beryllium was present
Latency*	First DOE exposure must have preceded first abnormal test for beryllium sensitization	First DOE exposure must have preceded first abnormal test for beryllium sensitization
Medical Evidence for illness and diagnostic testing criteria	<p>For diagnoses on or after January 1, 1993, beryllium sensitivity (as established in accordance with paragraph (b) of this section), together with lung pathology consistent with chronic beryllium disease, including the following:</p> <p>Medical documentation of either:</p> <p>Beryllium sensitivity or sensitization established by an abnormal LPT performed on either blood or lung lavage cells</p> <p>Or</p> <p>Positive reaction to beryllium patch testing</p> <p>And</p> <p>(i) A lung biopsy showing granulomas or a lymphocytic process consistent with chronic beryllium disease;</p> <p>(ii) A computerized axial tomography scan showing changes consistent with chronic beryllium disease; or</p> <p>(iii) Pulmonary function or exercise testing showing pulmonary deficits consistent with chronic beryllium disease.</p> <p>Or</p> <p>For diagnoses before January 1, 1993, the presence of the following:</p> <p>(i) Occupational or environmental history, or epidemiologic evidence of beryllium exposure; and</p> <p>(ii) Any three of the following criteria:</p> <p>(A) Characteristic chest radiographic (or computed tomography (CT)) abnormalities.</p> <p>(B) Restrictive or obstructive lung physiology testing or diffusing lung capacity defect.</p> <p>(C) Lung pathology consistent with chronic beryllium disease.</p> <p>(D) Clinical course consistent with a chronic respiratory disorder.</p> <p>(E) Immunologic tests showing beryllium sensitivity (skin patch test or beryllium blood test preferred).</p>	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

ASBESTOSIS

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	20 or more years	< 20 years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Written evidence of <u>one</u> of the following two criteria</p> <p>a. A written diagnosis of asbestosis made by a medical doctor; <u>or</u></p> <p>b. Results of breathing tests (PFTs or spirometry) showing a restrictive lung pattern FVC < 80% predicted</p> <p>And</p> <p>2. Any <u>one</u> of the following four criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with asbestosis and/or findings of pleural plaques or rounded atelectasis; <u>or</u></p> <p>c. Lung biopsy findings consistent with asbestosis, such as asbestos bodies identified</p> <p>or meeting grade II-IV asbestosis histologic criteria; <u>or</u></p> <p>d. Bronchoalveolar lavage showing \geq 1 asbestos body per cc of fluid</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) of silicosis, possible asbestosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><u>Or</u></p> <p>Death certificate mention of silicosis, possible asbestosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><u>Or</u></p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 0/1</p> <p><u>Or</u></p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of asbestosis</p> <p><u>Or</u></p> <p>Lung biopsy findings suggestive of asbestosis</p> <p><u>Or</u></p> <p>Bronchoalveolar lavage showing \geq 1 asbestos body per cc of fluid</p>
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

ASBESTOS RELATED DISORDERS

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review</u>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Pleural plaques: 20 or more years Pleural effusions: 5-30 years	Pleural plaques: < 20 years Pleural effusions: <5 or > 30 years
Medical Evidence for illness and diagnostic testing criteria	Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with these disorders <ul style="list-style-type: none"> • Pleural plaques • Pleural thickening, not associated with an area of prior surgery or trauma • Rounded atelectasis • Bilateral pleural effusions, also called benign asbestos related pleural effusion 	Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with these disorders <ul style="list-style-type: none"> • Pleural thickening in an area of prior surgery or trauma • Pleural effusion, if the record does not indicate that there is another disease process that would otherwise account for the effusion, such as congestive heart failure (CHF), cancer, or other lung disease
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

LUNG FIBROSIS

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Years	Years
Medical Evidence for illness and diagnostic testing criteria	<p>1. A written diagnosis of lung fibrosis made by a medical doctor</p> <p>And</p> <p>2. Any one of the following three criteria</p> <p>a. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with fibrosis</p> <ul style="list-style-type: none"> Such as small lung fields or volumes, minimal ground glass opacities, and/or bibasilar reticular abnormalities <p>b. Results of breathing tests (PFTs or spirometry) showing a restrictive or mixed pattern</p> <ul style="list-style-type: none"> Such as FVC <80% predicted <p>c. Lung biopsy findings consistent with fibrosis</p> <p>And</p> <p>3. There is no evidence in the medical record that the lung fibrosis is present due to another disease process.</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) of lung fibrosis</p> <p>Or</p> <p>Death certificate mention of fibrosis</p> <p>Or</p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of fibrosis</p>
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

PNEUMOCONIOSIS

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Years	Years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Written evidence of <u>one</u> of the following two criteria</p> <p>a. A written diagnosis of pneumoconiosis made by a medical doctor; <u>or</u></p> <p>b. Results of breathing tests (PFTs or spirometry) showing a restrictive lung pattern FVC < 80% predicted</p> <p>And</p> <p>2. Any <u>one</u> of the following three criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconiosis of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with asbestosis and/or findings of pleural plaques or rounded atelectasis; <u>or</u></p> <p>c. Lung biopsy findings consistent with pneumoconiosis</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Or</p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) of silicosis, possible asbestosis, restrictive lung disease, or pneumoconiosis</p> <p><u>Or</u></p> <p>Death certificate mention of silicosis, possible asbestosis, restrictive lung disease, or pneumoconiosis</p> <p><u>Or</u></p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconiosis of category 0/1</p> <p><u>Or</u></p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of pneumoconiosis.</p>
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review.</u>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Years	Months or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Any one of the following three criteria</p> <p>a. A written diagnosis of COPD or chronic bronchitis made by a medical doctor</p> <ul style="list-style-type: none"> Chronic bronchitis is defined as the presence of chronic productive cough for 3 months in each of two successive years and other causes of cough have been excluded <p>b. Results of PFTs or spirometry showing an obstructive or mixed pattern</p> <ul style="list-style-type: none"> FEV₁/FVC < 70% and FEV₁ < 80% predicted. <p>c. Results from a chest x-ray or other imaging technique that are consistent with COPD</p> <ul style="list-style-type: none"> Such as air trapping, flattening of diaphragms, enlarged lung fields. <p>And</p> <p>2. The employee has a history of being a never smoker***</p> <p>And</p> <p>3. There is no other lung disease present that would account for the findings</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Emphysema is caused by only a small subset of the toxic substances associated with chronic bronchitis, however it may be aggravated by the others on this list.</p>
Additional considerations for causation	There is currently no medical testing or means to distinguish COPD due to any of the above toxic substance exposures and COPD due to other causes. Physician review is required.	Physician review is required. Also, if all criteria are otherwise met, individuals with Alpha-1 Antitrypsin Deficiency (AAT Deficiency) may be considered to have a covered illness.

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

***ATS criterion for a never smoker, or non-smoker, is < 20 packs of cigarettes in a lifetime, but this piece of information may not be found in most medical records.

DIABETES

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria	There are no generally accepted toxic substance known to cause or accelerate diabetes.	However, diabetes can be a consequence of the treatment of some covered illnesses.
Latency	N/A	N/A
Medical Evidence for illness and diagnostic testing criteria	N/A	N/A
Additional considerations for causation	N/A	N/A

MESOTHELIOMA

Criteria	Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended	Evidence that suggests a covered illness exists and that physician review is recommended
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	30-50 years	20-29 or > 50 years
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of mesothelioma made by a medical doctor And 2. Pathology report consistent with mesothelioma from surgical or biopsy specimen	Some, but not all criteria to establish the illness are met** Or Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) or death certificate mention of mesothelioma or pleural malignancy Or Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of mesothelioma <ul style="list-style-type: none"> Such as large, unilateral pleural effusion, pleural mass, pleural rind, or diffuse pleural thickening
Additional considerations for causation	None needed	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

*** References utilized include American Thoracic Society consensus statement.

LUNG CANCER

Criteria	Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended	Evidence that suggests a covered illness exists and that physician review is recommended
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	10-20 years	>20 years
Medical Evidence for illness and diagnostic testing criteria	1. Any one of the following two criteria a. A written diagnosis of lung cancer (malignancy) made by a medical doctor; or b. Pathology report consistent with lung cancer (small cell, oat cell, large cell, squamous cell, adenocarcinoma) from surgical or biopsy specimen And 2. The employee has a history of being a never smoker***	Some, but not all criteria to establish the illness are met** Or Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) or death certificate mention of lung cancer (malignancy) <u>Or</u> Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of lung cancer <ul style="list-style-type: none">• Such as lung mass
Additional considerations for causation	There is currently no medical testing or means to distinguish cancer due to any of the above toxic substance exposures and cancer due to other causes. Physician review is required.	Physician review is required.

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

***ATS criterion for a never smoker, or non-smoker, is < 20 packs of cigarettes in a lifetime, but this piece of information may not be found in most medical records.

KIDNEY DISEASE

Criteria	Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended	Evidence that suggests a covered illness exists and that physician review is recommended
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Months or years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. Any one of the following two criteria a. A written diagnosis of kidney disease made by a medical doctor <ul style="list-style-type: none"> Other terms are chronic renal disease, chronic renal failure, renal insufficiency b. The worker required dialysis And 2. The worker does not have high blood pressure or diabetes And 3. The type of kidney disease diagnosed is consistent with one known to be caused by the identified toxic substance.	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	Additional testing may be required to help establish a causal link between a toxic substance and a specific kidney disease. This may include additional urine testing, such as β_2 -microglobulin or retinol binding protein and/or biological tests to detect residual evidence of the toxic substance in the body. The need for this additional testing should be determined by the reviewing physician. Physician review is required.	Physician review is required.

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

ASTHMA, OCCUPATIONAL

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review.</u>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Weeks, months, or years	Weeks, months, or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. The following three criteria:</p> <p>i. Onset of asthma occurring after first DOE exposure (except resolved asthma childhood)</p> <p>And</p> <p>ii. A written diagnosis of occupational asthma or asthma caused by toxic substance made by a medical doctor</p> <p>And</p> <p>iii. The diagnosis of asthma was made based on any one of the following criteria</p> <p>a. Methacholine challenge test results showing a $PC_{20} \leq 8$ mg/ml; or</p> <p>b. Post-bronchodilator reversibility of $FEV_1 \geq 12\%$ and 200 ml; or</p> <p>c. Post-bronchodilator reversibility of $FEV_1 \geq 12\%$, but <20 ml, with subsequent improvement in $FEV_1 \geq 20\%$ after steroid trial</p> <p>And</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Occupational asthma via sensitization to a new agent in the workplace can occur in workers with pre-existing asthma.</p> <p>Additional testing that can be consistent with the diagnosis, but does not establish the diagnosis.</p> <p>1. Positive skin prick testing or serologic IgE (RAST) testing to the toxic substance</p>
Additional considerations for causation	<p>1. An association between symptoms of asthma and work, including wheeze and/or shortness of breath that are better on days away from work, especially on holiday or vacation.</p> <p>And</p> <p>2. One or more of the following criteria:</p> <p>a. work-related change in FEV_1 or PEF rate; or</p> <p>b. work-related change in bronchial hyperresponsiveness; or</p> <p>c. positive response to specific inhalation challenge test (note this is not recommended if not already performed)</p>	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

ASTHMA, IRRITANT INDUCED

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Days, months, or years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. The three following criteria: a. Onset of asthma occurring after first DOE exposure (except resolved asthma childhood) And b. A written diagnosis of occupational asthma, irritant induced asthma, or asthma caused by toxic substance made by a medical doctor And	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	1. An association between symptoms of asthma and work, including wheeze and/or shortness of breath are better on days away from work, especially on holiday or vacation. And 2. One or more of the following criteria: a. work-related change in FEV ₁ or PEF rate; or b. positive response to specific inhalation challenge test (note this is not recommended if not already performed); or c. Onset of asthma in clear association with a symptomatic exposure to an irritant agent in the workplace. This includes RADS, occurring after a single exposure to a substance with irritant properties present in a very high concentration, if other disease processes have been ruled out.	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

ASTHMA, IRRITANT AGGRAVATED

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Days or months	Days or months
Medical Evidence for illness and diagnostic testing criteria	1. History of asthma as an adult prior to DOE exposure And	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	1. The two following criteria a. An association between symptoms of asthma and work, including wheeze and/or shortness of breath are better on days away from work, especially on holiday or vacation. And 2. The worker was symptomatic or required medication before and had increase in symptoms or medication requirement after beginning to work with the above substance.	None needed

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

HEART ATTACK

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Weeks, months, or years	Weeks, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of heart attack or sudden death due to heart disease by a medical doctor And 2. The heart attack or sudden death occurred after being away from nitrate exposure for a couple of days following a number of days of regular nitrate exposure (classically on a Monday morning).	Some, but not all criteria to establish the illness are met** This is strongly supported by a history of recurrent headaches following a similar pattern
Additional considerations for causation	Due to high prevalence of heart disease and heart attacks, physician review is recommended for determination of causation.	Physician review recommended

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

For nitrates only.

NEUROPATHY, TOXIC

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review.</u>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Days, months, or years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. A written diagnosis of peripheral neuropathy, toxic neuropathy, or neuropathy due to a toxic substance made by a medical doctor</p> <p>And</p> <p>2. The diagnosis was made by all three of the following criteria. Note: the definition of the classic syndrome will vary among the different toxic substances.</p> <p>a. Symptoms consistent with the classic syndrome caused by the specific toxic substance</p> <ul style="list-style-type: none"> • Sensory; or • Motor; or • Sensorimotor <p>b. Signs consistent with the classic syndrome caused by the specific toxic substance</p> <ul style="list-style-type: none"> • Decreased or abnormal distal sensation <ul style="list-style-type: none"> a. Such as stocking-glove numbness, allodynia, and/or hyperalgesia • Decreased or absent distal reflexes • Distal muscle weakness and/or atrophy <p>c. Results of electrodiagnostic studies consistent with a neuropathy caused by the specific toxic substance.</p> <ul style="list-style-type: none"> • Should include both needle EMG and nerve conduction studies (NCS) 	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	Electrodiagnostic testing can distinguish some but not all toxic neuropathies from those due to other causes. There are many medical causes of peripheral neuropathy, especially sensorimotor neuropathies. Physician review is required.	Physician review is required.

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

ENCEPHALOPATHY, CHRONIC TOXIC

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness</u> requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates And Additional information is needed**
Latency*	Years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of chronic toxic encephalopathy (ICD9 code 349.82 or analogous conditions) made by a medical doctor And 2. A formal neuropsychological assessment that included a battery of neurobehavioral tests is consistent with the diagnosis. 3. Appropriate neuroimaging studies (e.g. brain MRI, head CT) have been performed to investigate findings consistent with the diagnosis, or suggestive of unrelated causes.	
Additional considerations for causation	Some patterns on the history and neurobehavioral test profile may be more consistent with chronic toxic encephalopathy than with unrelated causes (e.g. greater decrements in performance vs. verbal IQ). Physician review is required.	Physician review is required.

* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

** Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

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